

CLAIMS

5 1. A method for gas stunning of poultry for slaughter arriving at the poultry slaughter-house in transport crates, where gas stunning of the animals is effected while they are still in transport crates, and where the transport crates comprising the animals, are conveyed successively by means of a number of conveyors through a stunning chamber, *characterised* in that the influence of the gas for stunning the animals is adjusted by shortening or prolonging the conveying time and/or the conveying route of
10 the said transport crates through the stunning chamber.

15 2. A method according to claim 1, *characterised* in that the adjustment of the conveying time through the stunning chamber is effected by increasing or reducing the speed of the said conveyors.

3. A method according to claim 1, *characterised* in that the adjustment of the conveying route through the stunning chamber is effected by lowering or lifting a substantially horizontal conveyor running herein, which conveyor provides for the conveying of the transport crates between a downwards running conveyor and an upwards
20 running conveyor.

4. A method according to claim 1, *characterised* in that the influence of the gas for stunning the animals is moreover adjusted by varying the gas concentration at varying levels in the stunning chamber as increasing gas concentration is applied in a
25 downwards direction in the stunning chamber.

5. A system for gas stunning of poultry for slaughter cf. to the method according to claim 1 and comprising a substantially horizontal conveyor which is arranged for receiving and introducing transport crates comprising poultry for slaughter to a gas-filled
30 stunning chamber in which a downwards running conveyor is arranged, which is arranged for successively conveying transport crates downwards in the stunning chamber, and an upwards running conveyor which is arranged for successively conveying the transport crates upwards and out of the stunning chamber, *characterised*

in that the downwards running conveyor is constituted by a number of mainly vertical conveyors, each comprising mutually interacting endless chain conveyors with carrying means arranged for supporting opposite sides of said transport crates for downwards conveying of these in the stunning chamber, that the upwards running conveyor is constituted by a substantially vertical conveyor comprising mutually interacting endless chain conveyors with carrying means arranged for supporting opposite sides of said transport crates for upwards conveying of these from the stunning chamber, and that between the said downwards and upwards running conveyors there is a substantially horizontal conveyor arranged for providing the horizontal conveying of the transport crates through the stunning chamber, which latter conveyor furthermore is adapted as an entity for being lifted and lowered respectively between levels with varying gas concentrations in the stunning chamber.

6. A system according to claim 5, *characterised* in that the stunning chamber is divided into a number of horizontal zones, by way of example three zones, viz. a lower zone having a gas concentration (CO^2) of 50% (app. 45-51%), an intermediate zone having a gas concentration (CO^2) of 25% (app. 32-46%), and an upper zone having a gas concentration (CO^2) of 5% (app. 8-10%), as sensors are provided in level with the upper zone limit for monitoring and control respectively of the gas concentration in the said zones.

7. A system according to claim 5, *characterised* in that it comprises a PLC control system for controlling a number of mutually dependent mechanical parameters, by way of example speed of vertical conveyors, setting (176 seconds), number of transport crates in stunning zones, setting (tunnel) (10 pcs.), cycle between crates in stunning zone, setting (17.6 seconds), number of chickens per crate, setting (43 pcs.), speed of slaughtering line, setting (148 animals/minute), speed cycle between crates in stunning zone, actual (17.4 seconds), speed of slaughtering line, actual (142 animals/minute).